ABSTRACT AMENDMENTS

Replace the Abstract with:

~~The invention provides a~~A knocking detection apparatus including: spark plugs disposed in cylinders of an internal combustion engine; an ion current~~-detecting means 2~~ detector for detecting ion currents flowing in the spark plugs; a time-frequency~~-transforming means 3~~ transformer for setting time intervals allowing one or more overlaps within a time from after ignition by the spark plugs to until~~-its own~~ the spark plug in the respective cylinder or in another cylinder next ignites and sampling~~-current values of the~~ ion currents in the respective time intervals to determine the time-frequency components~~-thereof~~ of the ion current; a knocking~~-detecting means 4~~ detector for detecting knocking based on~~-the basis of~~ the time-frequency components; and a detection~~-control means 5~~ controller for inputting~~-a~~ running status and controlling the time-frequency~~-transforming means~~ transformer and the knocking~~-detecting means~~ detector.